

Patent Abstracts of Japan

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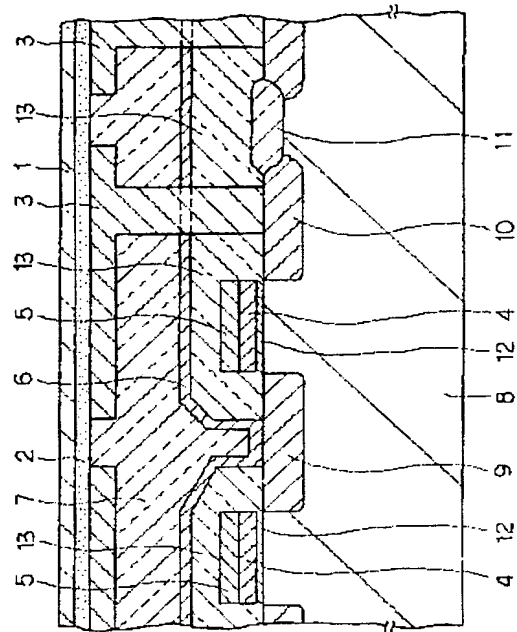
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APPLICANT : NEC CORP;

INVENTOR : HIROTA TOSHIYUKI;

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TITLE : SPATIAL OPTICAL MODULATOR



ABSTRACT : **PURPOSE:** To enable a spatial optical modulator to be miniaturized, improved in compatibility to a semiconductor technique, shock resistance, and vibration resistance, and free from afterimages by a method wherein two or more capacitors which generate charges corresponding to control signals and store them are arranged in array, and an electro-optical crystal layer which varies in refractive index corresponding to the charges concerned is provided.

CONSTITUTION: A field insulating film 11 is formed on a P-type silicon substrate 8 through a LOCOS process to provide an element region. A MOS transistor composed of a control gate 4 of polycrystalline silicon, an N⁺-type source region 9, and a drain region 10 is formed on the element region concerned through an Si gate process. A word backing line 5 is formed on a control gate 4. Thereafter, an interlaminar insulating film 13 is formed, a contact hole is provided to a source region 9, and a bit line 6 of WS_i or the like is formed. Then, an interlaminar insulating film 7 is formed, a contact hole is provided to the drain region 10, and an electrode 3 of Al or the like is built. An electro-optical crystal layer 2 of LiNbO₃, LiTaO₃, or PLZT is formed on the electrode 3, and lastly a transparent electrode 1 of ITO or the like is provided.

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